



ASSIMILATION OF TECHNOLOGICAL ADVANCES VIS-À-VIS INDIAN CRIMINAL JUSTICE SYSTEM

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ABSTRACT

The present paper aims to highlight current technologies deployed in the criminal justice system in India along with identifying the impacts of technology on the criminal justice system and specify interactions between criminal justice and technology. Technology has been seen as a dependent and independent variable.¹

1. INTRODUCTION:

Technology does not determine social structure; it simply widens all kinds of possibilities. The thoughtful incorporation of technology into our society requires an active evaluation of our values as a society, of how our society can and should be reshaped by the technology, and of how the technology should be shaped by our society. Although each technological change may have very different impacts on both law and society, useful observations can be made at a more general level. Technological change has an impact on existing legal rules-enhancing uncertainty, making them over-inclusive or under-inclusive, and rendering them obsolete.² The criminal justice system as a whole results from the interaction between legal rules, administrative practice, and societal attitudes and behavior.³ The developments in medical sciences, psychology⁴ and information technology has enabled the smooth working of the criminal justice system. The police community must use technologies to combat the technological sophistication of the criminals.

2. ADOPTION OF NEW TECHNOLOGIES BY CRIMINAL JUSTICE SYSTEM:

In most cases, a suspect enters the criminal justice system as a result of investigation and apprehension by the police. Since the beginning of organized police work in the early 19th century, technological advances have widened the net cast by police investigations and have improved the ability to identify offenders and capture suspects. Now new technologies are providing police with powerful new capabilities. By improving the abilities of local and State law enforcement agencies to cooperate across jurisdictions, these new technologies and have may also decrease their dependence on Central law enforcement agencies. Innovations in criminal justice technology can be divided into two broad categories: hard technology (hardware or materials) and soft technology (computer software, information systems).⁵ Hard technology innovations include new materials, devices, and equipment that can be used to either commit crime or prevent and control crime.⁶ Soft technologies involve the strategic use of information to prevent crime and to improve the performance of the police.⁷

2.1 Use of Technology in Investigation, Identification and Apprehension:

(a) Technology in Investigation:

Forensic science has developed over the past 300 years or so, and its processes continue to improve and evolve today as science and technology find better and more accurate techniques. In 1929, the first American forensic lab was created in Los Angeles by the police department. Forensic science plays an integral role in the criminal justice system.

(b) Technologies Used for Identification:

Cell Phone Records:

Generally, cell phone record investigations are a type of telephone surveillance, cell phone surveillance that can be part of a larger investigation or can stand on their own as an investigation. These investigations are crucial to many types of investigations, including asset searches, missing persons cases, skip tracing, fugitive recovery, process serving, cheating spouse investigations, domestic investigations, background checks, telephone account investigations, employee checks, business checks, fraud investigations, criminal investigations, phone call record theft investigations, child custody investigations, child abuse investigations, and others.

The Indian Evidence Act, 1872 and Information Technology Act, 2000 grants legal recognition to electronic records and evidence submitted in form of electronic records. According to section 2(t)⁸ "electronic record" means data, record or data generated, image or sound stored, received or sent in an electronic form or micro film or computer generated micro fiche. The Information Technology Amendment Act, 2008 has recognized various forms of communication devices and defines a "communication device"

under section 2 (ha)⁹ of the Act "communication device" means cell phones, personal digital assistance or combination of both or any other device used to communicate, send or transmit any text, video, audio or image.

DNA Technology¹⁰:

DNA profiling (also called DNA testing, DNA typing, or genetic fingerprinting) is a technique employed by forensic scientists to assist in the identification of individuals by their respective DNA profiles. DNA profiles are encrypted sets of numbers that reflect a person's DNA makeup, which can also be used as the person's identifier. In India, initially the judges took very conservative views regarding the application of DNA evidence in resolving the paternity/maternity dispute cases. What is striking is that the dominant controversies about DNA technology now revolve around the competence of the criminal justice system rather than the reliability of the technology itself.

Automated Fingerprints Identification System¹¹:

One of the most important parts of a forensic investigation is fingerprinting. As fingerprints are unique to each individual, they serve as a highly accurate way for law enforcement agencies to identify a suspect, as well as potentially prove their guilt or innocence. The Indian Version of Automated Fingerprint Identification System (AFIS) is called FACTS, which was co-developed, by NCRB and CMC Ltd., India. The current version of FACTS is 5.0. The system uses Image Processing and Pattern Recognition technique to capture, encode, store and match fingerprints, including comparison of chance prints. It uses pattern class, core and delta information, minutiae location, direction, neighbouring information, ridge counts and distances, density, type, print background/foreground information etc. for matching Finger Prints. Apart from the above details, FACTS also stores non-fingerprint information or demographic details like gender, region and conviction details.

In *Drojan Singh and another v. State (Govt. of NCT of Delhi)*¹², the Delhi High Court empowered the investigating agencies that the fingerprints or specimen handwriting of an accused taken by an Investigating Officer during probe into a case was admissible as evidence even though permission from a magistrate was not taken.

Detection Deception Tests:

The deception detection tests (DDT) such as polygraph¹³, narco-analysis¹⁴ and brain-mapping have important clinical, scientific, ethical and legal implications. The DDTs are useful to know the concealed information related to crime. This information, which is known only to self, is sometimes crucial for criminal investigation. Narco Analysis, Polygraph and Brain Mapping are main deception detection tests. Till 2010, various High Courts have interpreted the validity of such tests as per their judicial knowledge. In *Selvi & others v. State Of Karnataka & Another*, the Apex Court was of the view that the compulsory administration of the impugned techniques violates the 'right against self-incrimination'. Forcing an individual to undergo any of the impugned techniques violates the standard of 'substantive due process' which is required for restraining personal liberty.

(c) Electronic Surveillance for Apprehension¹⁵:

CCTV:

CCTV is used extensively and can be found in many places including in commercial premises, at ATM venues, on public transport, at airports, in central business districts, and shopping malls. The rate of uptake seems to be accelerating. As most central business districts now have them the most recent and future expansion of CCTV is in suburban and rural areas. India has now moved into an age where security seems to be the primary issue for most

countries and their citizens. Video surveillance is increasingly being used to assuage the fears of the citizens and bring perpetrators to justice. In such a scenario, the issue of privacy rights of individuals seems to have taken a backseat.

High Security Registration Plates for Motor Vehicles:

On the basis of the recommendations made by the Technical Standing Committee on Central Motor Vehicles Rules, the Central Government had amended rule 50 of the Central Motor Vehicles Rules, 1989, mandating introduction of new High Security Registration Plates, both in respect of new and in-use motor vehicles throughout the country.¹⁹ High Security Plates are meant to curb thefts of car. As of now, it's pretty easy to change the number plate of the car by the anti-social elements and drive it easily in interstate. But, when this high security plates will come into existence, it will be almost impossible to change number plate as these high security plates comes with snap lock and any tampering will lead to breakage failing any number plate to remain affix on the car. The major benefit is hence, these high security plates will end up identifying the stolen cars - as in absence of change of registration plate, it would be quite difficult for running a stolen car.

3. APPROACH OF APEX COURT VIS-À-VIS MODERN TECHNOLOGIES:

Table 1: Approach of Supreme Court on Use of DNA Technology²⁰

Case-Title	Decision of the Court	Approach Reflected
Goutam Kundu v. State of West Bengal ²¹	<ul style="list-style-type: none"> The application for blood test couldn't be accepted as aimed to avoid payment of maintenance, No person could be compelled to give sample of blood for analysis against his/her will and no adverse inference can be drawn against him/her for such refusal 	Negative Approach in adopting new technology
Kamti Devi v. Poshni Ram ²²	Priority to social parentage over biological parentage to reject DNA evidence	Positive Approach ----- DNA evidence by observing that though the result of a genuine DNA test is said to be scientifically accurate it is not enough to escape from the conclusiveness of Section 112 of the Evidence Act, 1872
Sharda v. Dharmpal ²³	An order to a person to undergo medical test would not be in violation of the right to personal liberty under Article 21 of the Indian Constitution.	Positive Approach

4. CONCLUSIONS:

The study has made clear that the criminal justice system all over the globe is witnessing the need to incorporate the novel innovations in technology in order to improve the efficiency of the justice system. The criminal justice system in India has been trying to match to the technological developments and the judiciary is simultaneously giving verdict on the constitutionality as well as validity of new means. The conclusion that may be drawn from the above study is that India is on the way to set examples in adopting the technologies in tune with the constitutional principles.

The importance that technology has played, and will continue to play over the next several decades, presents very real concerns—a never-ending fight against crime and the quest for justice, which will require new and innovative advancements in the application of existing systems. The affects will impact the criminal justice system in significant areas of scientific techniques. The role that technology plays in the criminal justice system is increasing every day. Just as technology advances the world, so does it advance the criminal justice system. Technology in criminal justice field represents a tool to help local law enforcement achieve its broadened and increasingly complex mission. New possibilities are emerging for the integration and automation of court procedures and practices.

REFERENCES:

Notes:

- I. Researcher want to emphasize that in relation to the criminal justice system, technology has acted independent of the system and also has reacted to the changes taking place in the system.
- II. Lyria Bennett Moses, Why Have a Theory of Law and Technological Change?, 8(2)

Minnesota Journal of Law, Science & Technology, 2007, at 589.

- III. Ibid.
- IV. Investigative psychology and forensic psychology offer various solutions to the justice system.
- V. James Byrne and Gary Marx, Technological Innovations in Crime Prevention and Policing. A Review of the Research on Implementation and Impact, 3 Journal of Police Studies, 2011, at 19.
- VI. Ibid.
- VII. Ibid.
- VIII. Information Technology Act, 2000 (Act No. 21 of 2000).
- IX. Ibid.
- X. The first major publicly recognized forensic use of DNA-based genetic profiling involved study of DNA polymorphisms (i.e., variations) in crime scene evidence in England in the mid-1980s. Alec Jeffries, a professor at the University of Leicester, utilized multilocus DNA probes to study DNA extracted from crime-scene evidence samples to identify the perpetrator of the murders.
- XI. Sir Francis Galton, the renowned English Scientist established scientifically the basic principles of uniqueness and permanency in Finger Prints.
- XII. Cr.L.A. No.408/2007 decided on April 6, 2011.
- XIII. There are three prominent polygraph examination techniques: The relevant-irrelevant (R-I) technique; the control question (CQ) technique and Directed Lie-Control (DLC) technique.
- XIV. This test involves the intravenous administration of a drug that causes the subject to enter into a hypnotic trance and become less inhibited. The drug-induced hypnotic stage is useful for investigators since it makes the subject more likely to divulge information. The drug used for this test is sodium pentothal, higher quantities of which are routinely used for inducing general anaesthesia in surgical procedures.
- XV. In Dinesh Dalmia v. State by Special Police Establishment (SPE), CBI (2006) Madras High Court held that subjecting an accused to undergo such scientific tests will not amount to breaking his silence by force and such process does not amount to compelling a witness to give evidence as against him. In Sh. Shailender Sharma v. State (2008) the Delhi High Court held that Narco Analysis Test does not suffer from any constitutional infirmity as it is a step in aid of investigation.
- XVI. 7 SCC 263 (2010).
- XVII. The Court also noted that National Human Rights Commission's - 'Guidelines for the Administration of Polygraph Test (Lie 249 Detector Test) on an Accused' in 2000 should be strictly adhered to and similar safeguards should be adopted for conducting the 'Narcoanalysis technique' and the 'Brain Electrical Activation Profile' test.
- XVIII. The three most common types of electronic surveillance are Aural surveillance, Visual surveillance and Tracking devices
- XIX. The relevant Gazette Notifications are G.S.R. 221 (E) dated 28-03-2001, S.O. 814(E) dated 22-08-2001 and S.O. 1041 (E) dated 16-10-2001.
- XX. Compiled by the Researcher.
- XXI. SCC 418 (1993).
- XXII. SCC 311 (2001).
- XXIII. SCC 493, at 524 (2003).